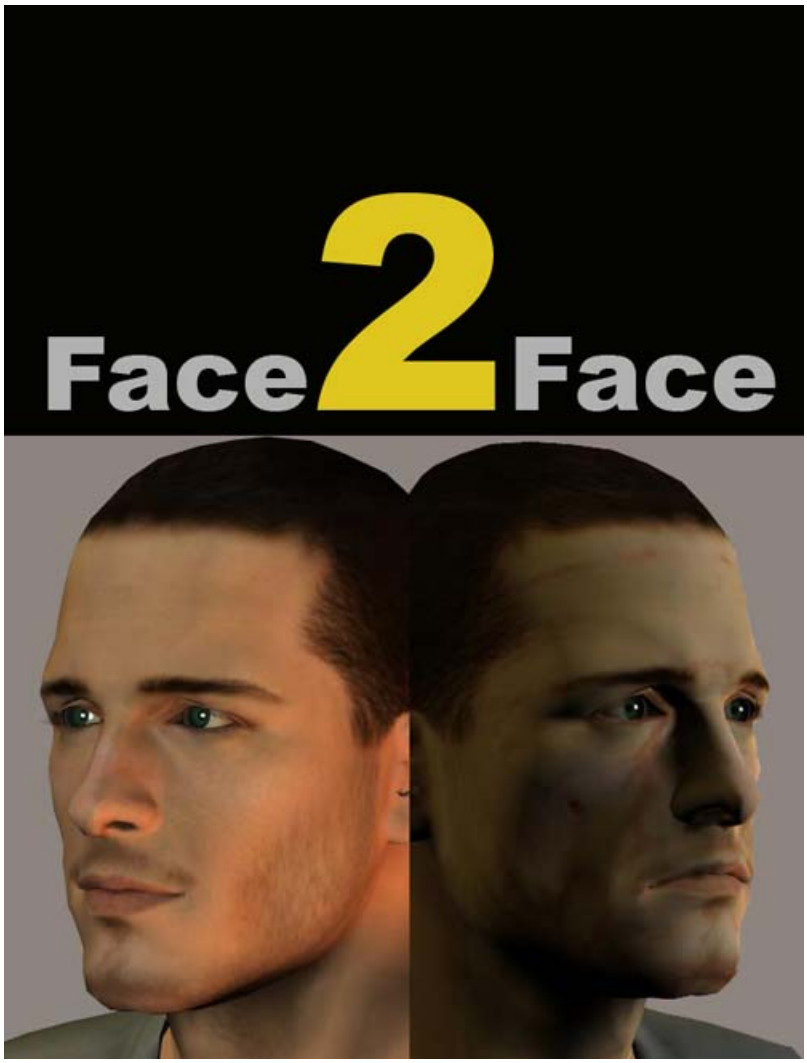
Face2Face System – F1



Tutorial
2010

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Information

January 2010

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The manual and illustrations were made using the Microsoft Word and Adobe Photoshop

Overview

Face2Face is a software/hardware system that shows young adults at risk how crystal meth abuse will change their faces after 6 month, 1 year or 3 years of abuse.
This is accomplished in three steps:

1. Capture a 3D face using the stereo camera
2. Software uses two images to create a 3D head
3. By clicking on one of the three "age" buttons software changes the shape and texture of the 3D head to show crystal meth caused deterioration

The whole process may take 2 minutes: 1 minute for photography and 1 minute for the software to build 3D head (time dependent on the speed of the computer used).

The "before" and "after" images are shown side-by-side and can be printed via the "Print" command. To preserve privacy images are erased from camera and computer after use.

System requirements

Required hardware

WIN: Face2Face runs with the following minimal hardware:

A Windows-based personal computer or laptop with the following minimal requirements:

Pentium III or IV 2 GHz (faster chips will run software faster)

2 GB RAM internal memory

True Colour video card

Screen of a resolution 1024x768

250 MB free disk space

Needed system software

Face2Face runs under the following system software:

Windows 2000, Windows XP, Windows VISTA , and W7 operating systems.

To read pdf manuals Adobe Acrobat is recommended

To watch "How-to" videos Windows Media player is recommended:

Hardware Setup

Face2Face system consists of a hardware and a software component. Required hardware includes the Fuji FinePix W1 camera and a computer.

Camera

Fuji Finepix W1 camera

The Fuji Finepix W1 camera is a stereo camera that ahs two side-by-side optics offset by about 3 inches. The camera takes two slightly offset images and creates a file in the MPO format. The image can be viewed in the camera monitor in stereo 3D without stereo glasses.

Operation

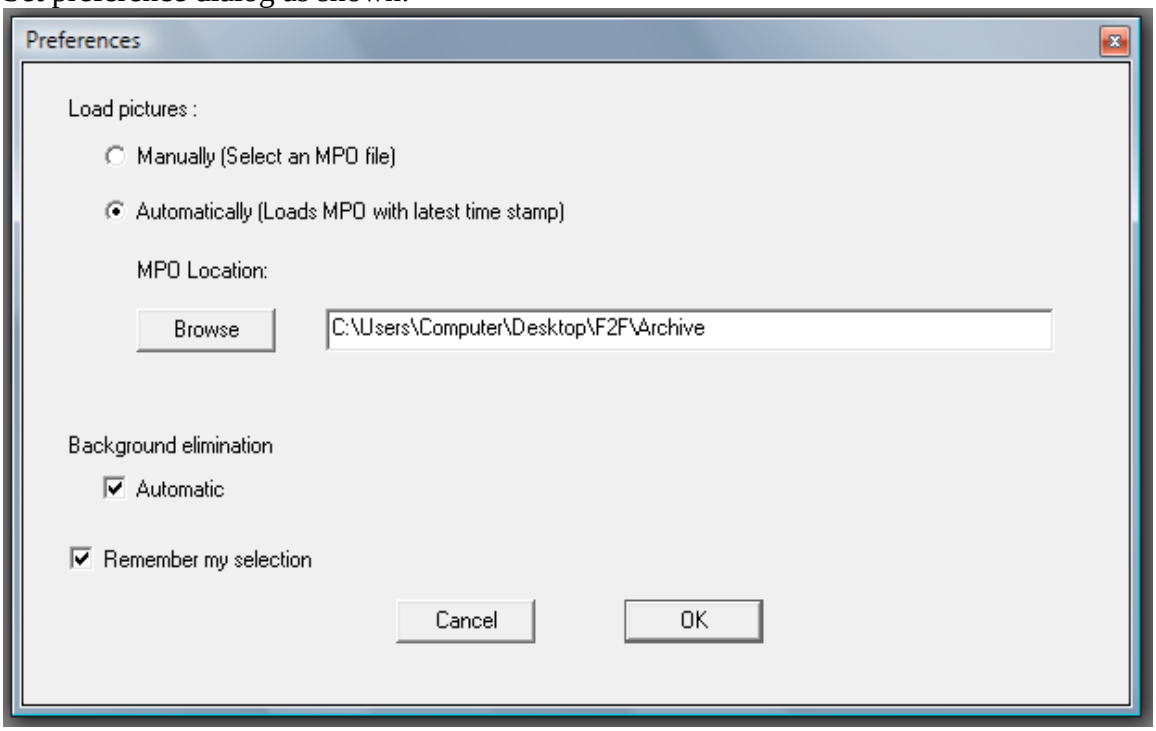
The following chapter deals with the very simple operation of the system.

1. Install Software

Simply drag the folder called “F2F-F1” from the CD to your desktop.
Also, please install the Fujifilm FinePix software (c0omes with the camera).
This is all the installation you need.

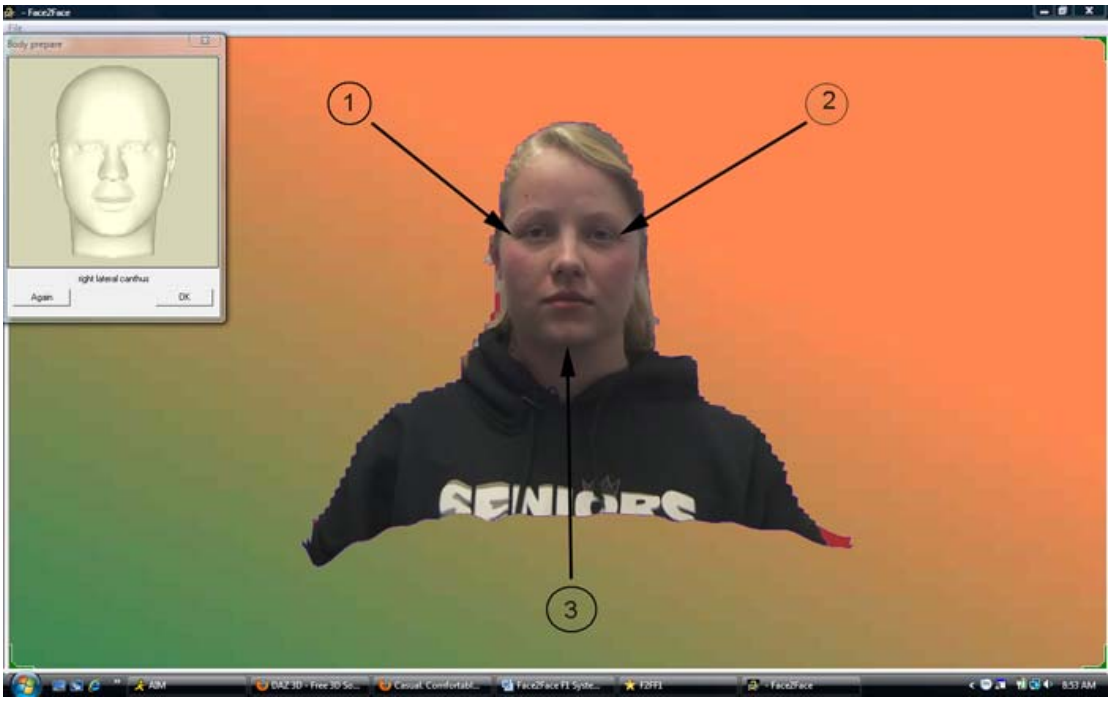
2. Test Face2Face software

Double-click on the F2F icon. The software launches.
Open the “Preference” dialog under the File menu.
Set preference dialog as shown:



1. Choose “Automatically (Loads with latest time stamp)
2. Browse for F2F on your desktop and choose the “Archive” folder
3. Set “Background elimination” on automatic
4. Check “Remember my selection”
5. Click OK

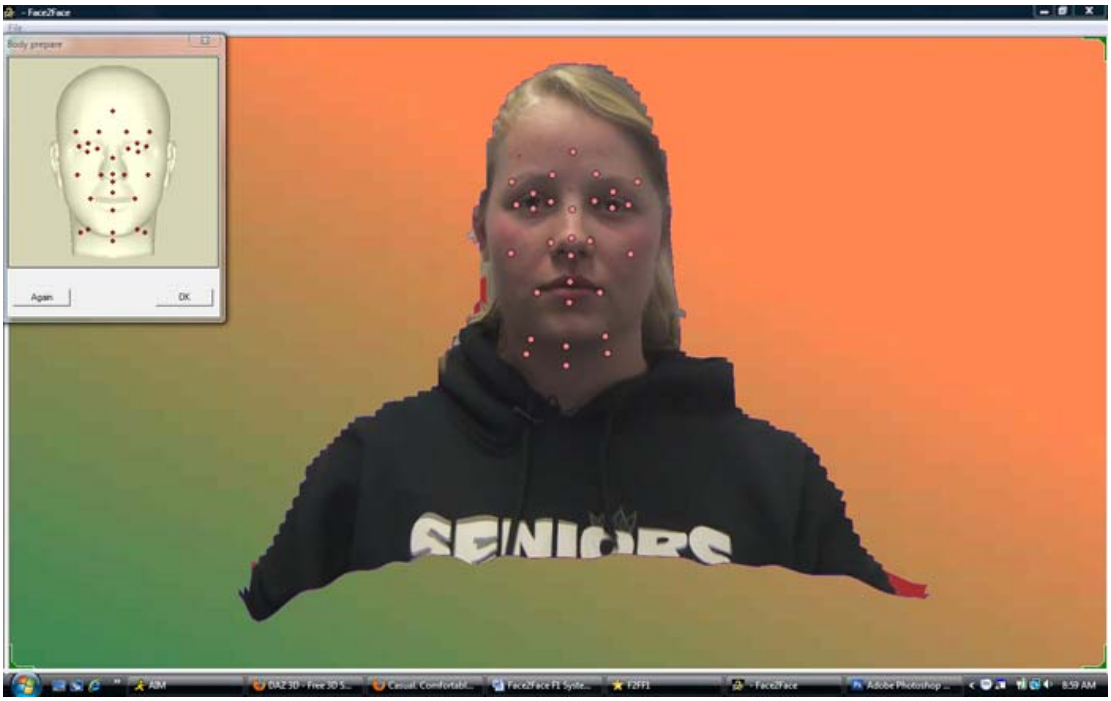
Now, choose “Next” from the File menu and the 3D process starts. Face2Face will find the MPO file with the latest time stamp and convert it into a 3D head in about 1 minute. (Since you only have one MPO in the Archive folder at this point, it will convert that file).
This is what you will see:



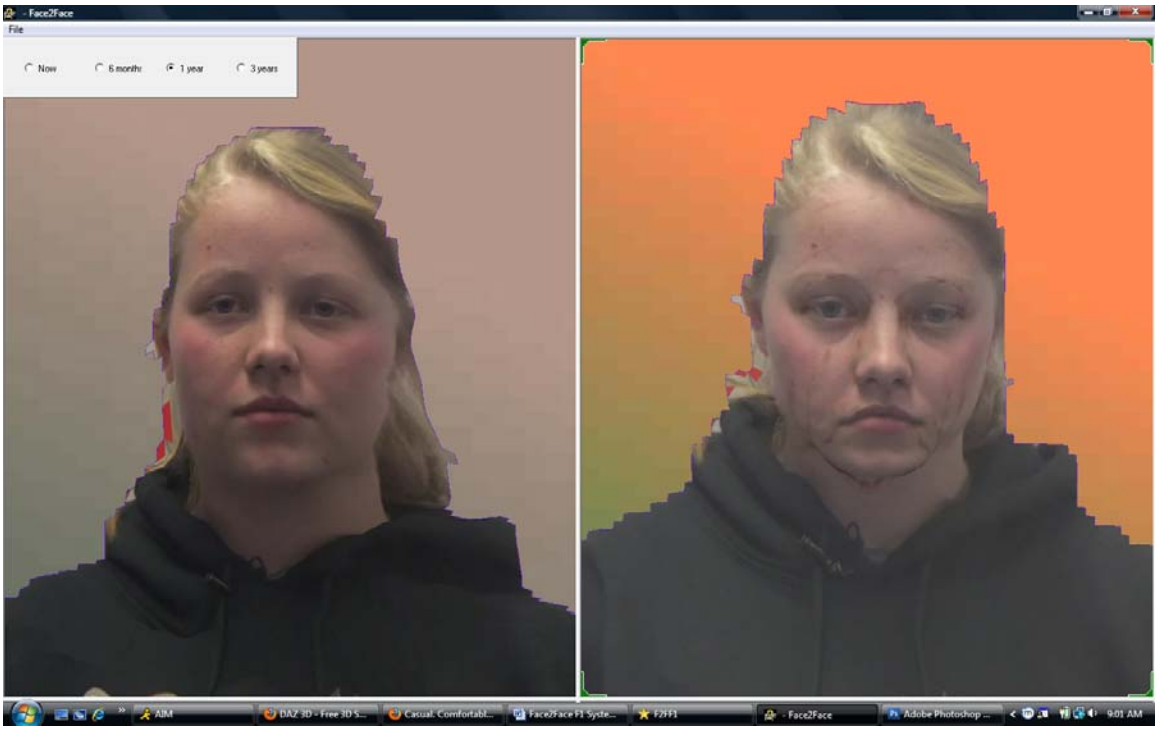
The guide in the upper left corner instructs you to place a dot in the left eye corner, followed by the right eye corner and the chin.

NOTE: After you placed the first dot, you can zoom in via the middle mouse button or rotate the head via the right mouse button.

After these three dots the program places another 26 dots as shown. You can move the dots to correspond to the places as shown on the guide. When finished click OK.



In a few seconds, you'll see a split screen with a dialog box.
The left screen is the "Now" picture, the right screen will show the changes meth abuse causes. Go ahead and click on the 6 month button. In a few seconds the change will take place. Feel free to rotate the head (with the right mouse button). To move the image around, use the left mouse button. Zoom in and out is the middle mouse button.



3. Take Picture

Use all factory default settings on the Fuji Camera. This ensures that you get the optimal picture each time.
A few hints:
1. Use monochrome background behind the head (white wall or similar). Avoid reflective surfaces such as whiteboard.
2. Seat the subject on a chair, and the back of his/her head touch the wall.
3. Strongly suggest the use a tripod. Make sure that the camera is vertical (use built in leveler if needed).
4. Have good lighting. Set "Flash" on "on" all the time.

Set up the camera 3 feet away from the wall and take a picture.
(If you decide to take a self-portrait, you can set the 10 second timer).

Composition

Center the subject's head in the viewfinder.
The crosshair should be roughly in the middle of the head (nose area).

OTHER SUGGESTIONS:

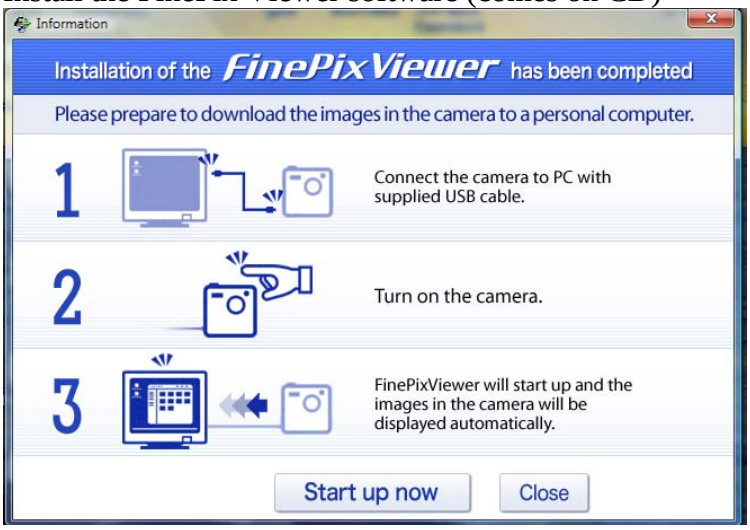
1. Do not have subject with open smile (showing teeth).
2. Ask subject to move out hair (bangs) etc from face as far as possible.
3. No glasses
4. No external objects (clock, calendar)
5. Take a picture.

Before you connect the camera to the laptop, you need to set up the auto-download.

Finepix software steup.

Follow this steps:

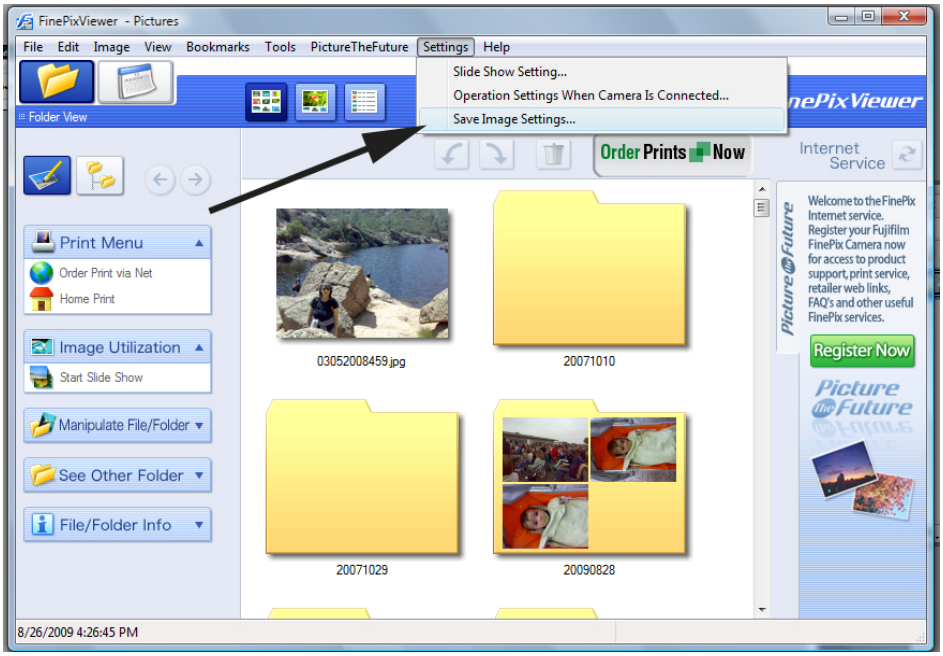
Install the FinePix Viewer software (comes on CD)


Information
Installation of the FinePix Viewer has been completed
Please prepare to download the images in the camera to a personal computer.
1
Connect the camera to PC with supplied USB cable.
2
Turn on the camera.
3
FinePixViewer will start up and the images in the camera will be displayed automatically.
Start up now
Close

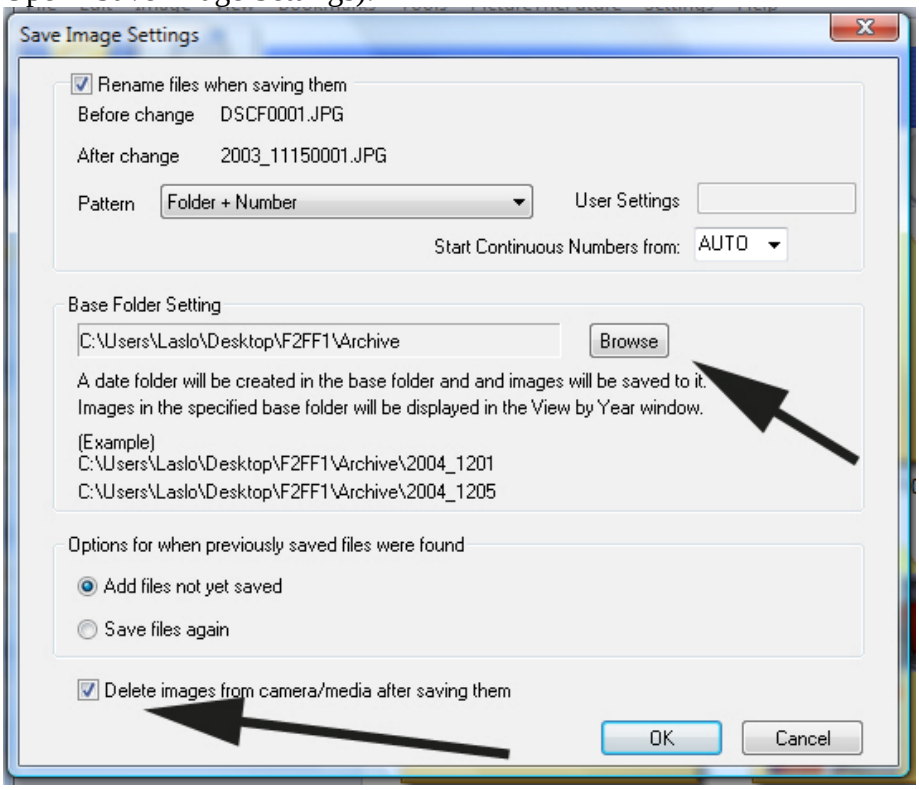
Once software is installed, you need to restart your computer.

Launch FinePix Viewer.

Go to “Settings (shown below)



Open “Save Image Settings).


Save Image Settings
Rename files when saving them
Before change DSCF0001.JPG
After change 2003_11150001.JPG
Pattern Folder + Number
User Settings
Start Continuous Numbers from: AUTO
Base Folder Setting
C:\Users\Laslo\Desktop\F2FF1\Archive
Browse
A date folder will be created in the base folder and and images will be saved to it.
Images in the specified base folder will be displayed in the View by Year window.
(Example)
C:\Users\Laslo\Desktop\F2FF1\Archive\2004_1201
C:\Users\Laslo\Desktop\F2FF1\Archive\2004_1205
Options for when previously saved files were found
Add files not yet saved
Save files again
Delete images from camera/media after saving them
OK
Cancel

Now Browse for your Archive button (Desktop/F2FF1/Archive)
Make sure you also click “Delete images from camera”

This setting will put the new images in a folder inside the Archive folder with today’s date as the folder name.

Every new day you should navigate to this folder as your default folder. As you are taking more pictures that day, you do not need to navigate again – Command-N will automatically look in this folder.

Take More Pictures!

Now you are all set to connect the camera to your laptop.
Once you connected via USB, turn on your camera via the arrow button next to Menu OK (on the back of your camera, upper right corner).

Set your camera height so that the lens is in level with the subject's nose. Make sure that behind the face you are photographing there are not extraneous objects (best seat your subject against a light-colored wall).

1. Take a picture.
2. Turn off camera (by closing the lens protector lid).
3. Connect camera to a USB-port on your laptop.
4. Turn camera back on (pressing the "arrow" symbol next to "Menu OK" for 5 seconds. (The camera light will come back).
5. You may also hear an audible beep on your laptop as the camera is recognized and the laptop starts to download the picture to the F2F/Archive folder). This will also erase the MPO image from your camera.

Operating the Face2Face Software

Go to your F2F folder and double click on the F2F application. This will launch Face2Face.

1. After a brief view of the Face2Face splash screen, a gray window opens.
2. Go to File menu and choose "Next" (or just type Control-N).
3. If your Preferences are set right (see chapter above), the software will find the MPO with the latest time stamp in your Archive folder and start to process it. A progress bar appears and will show your progress.
4. With this new camera/system the processing time will be around 1 minute (depending on your computer's speed) – much faster than the 3 minutes with the earlier dual-camera system.
5. After processing finished, the 3D portrait will appear with the dot dialog. From here follow the process outlined above in the "Test Face2Face Software" chapter.

NOTE: Once you finished aging the subject, you can also print the screen to an inkjet printer. Use the "Print" button (Control-P) to select printer and page setup.

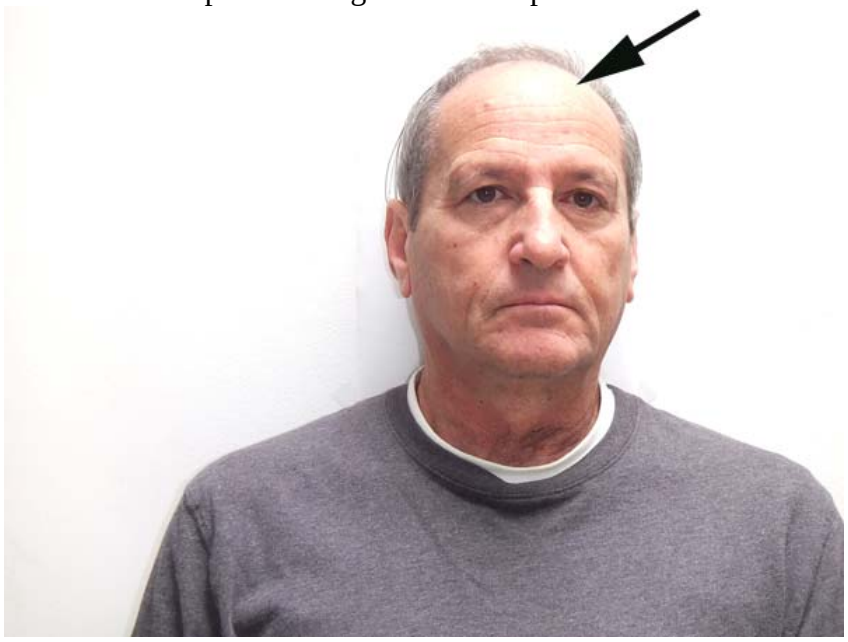
Additional Notes/Trouble Shooting

TroubleShooting:

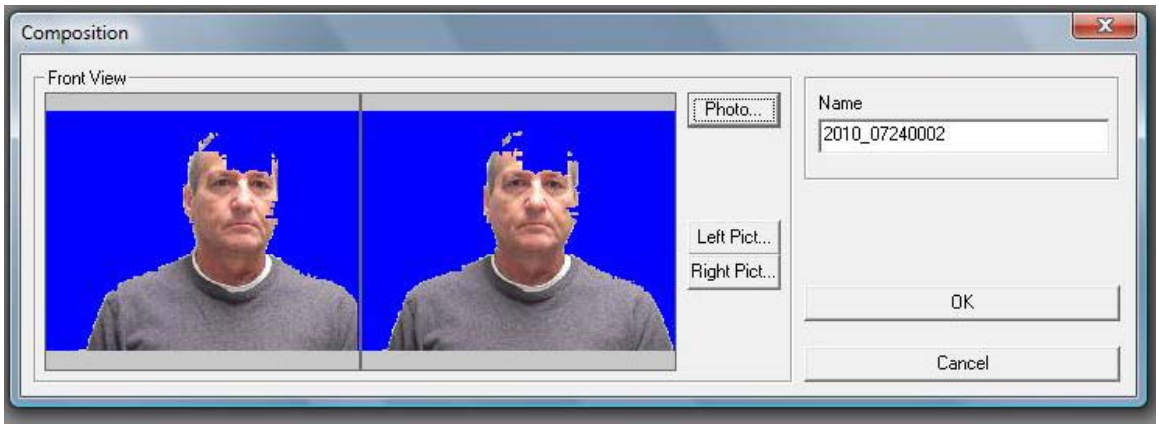
1. To make sure your portrait is in focus, you may want to press the exposure button halfway down (this will focus the camera on the face) before taking the picture by depressing the button all the way.
2. Avoid shiny backgrounds
3. Try to minimize the area from the neck down. Avoid including too much of the shoulders or upper torso.
4. Keep camera level with subject (level with the nose of the subject).
5. Avoid extreme light conditions. Try to use the system indoors under artificial light conditions such as a classroom. (see more below).
6. If not satisfied with the result, try again.

Overexposure

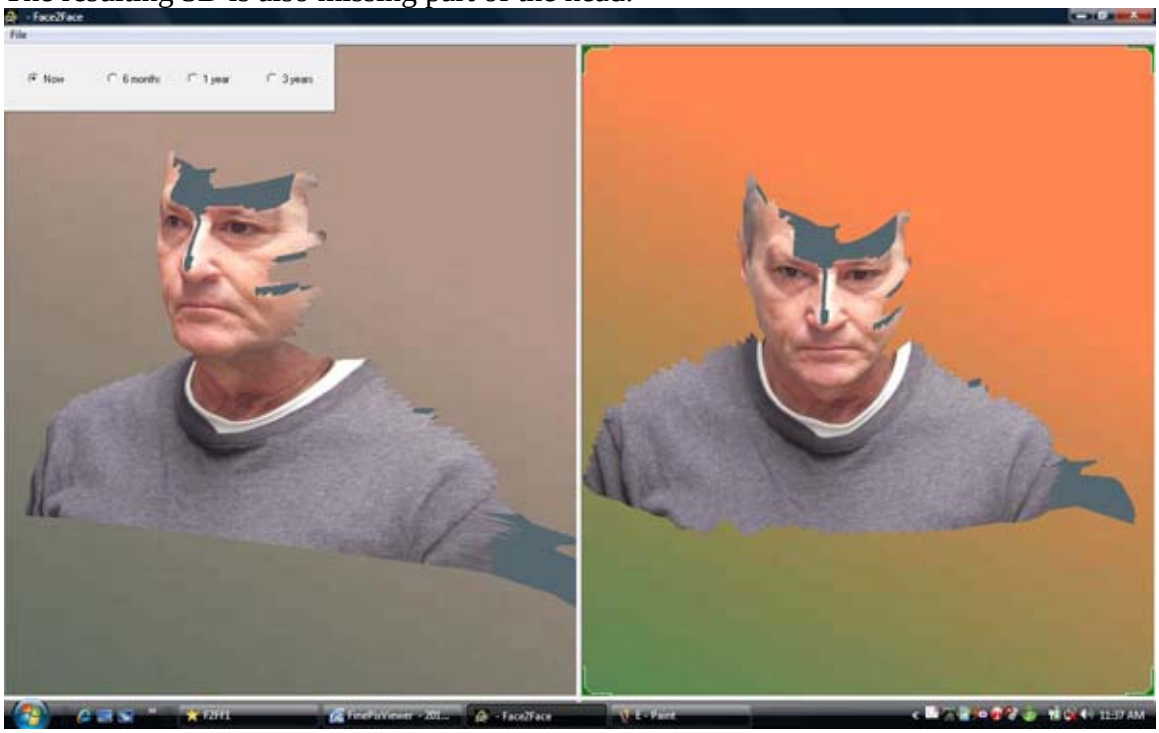
Face2Face is designed to function best under indoor controlled lighting situations such as a classroom. Extreme lighting, such as direct sunlight hitting a part of the face may cause either missing part of the face that was overexposed or processing error.
Here's an example of strong overhead exposure



This result in part of the 3D mesh missing. You can see it if you choose the manual background elimination in the Preference dialog:



The resulting 3D is also missing part of the head:



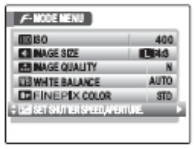
How to Avoid Overexposure?
Best is to choose indoor lighting conditions with no direct sunlight. If this is not possible, set the camera to manual exposure control. This is described in the FinePix Manual page 29 and 31.
First you open the front shutter in the shutter mode. Then press on the mode button in the upper left corner of the back of the camera. Select Manual (see below)

M MANUAL

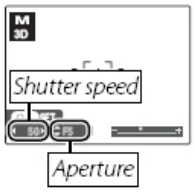
In this mode, you choose both shutter speed and ap
the value suggested by the camera.

1 Press the ƒ button to display the ƒ-mode menu.

2 Press the selector up or down to highlight SET SHUTTERSPEED, APERTURE..



3 Press MENU/OK. Shutter speed and aperture will be displayed.



4

5

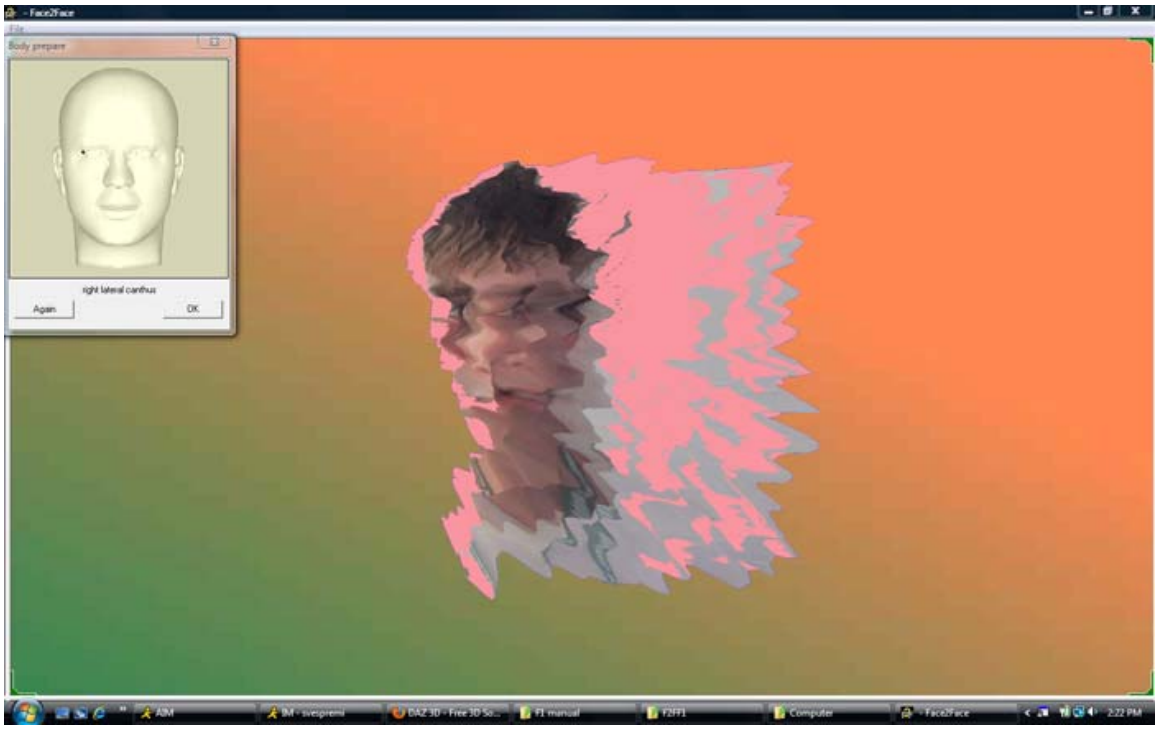
6

Set the speed at 400 (using horizontal arrows) and the shutter to F8 (vertical arrows). If this setting does not work, you may try others.

Another possible distortion is more that happens with bad light is more severe.
In this case the head is “wavy” and distorted.
The cause is distorted background due to bad/uneven lighting

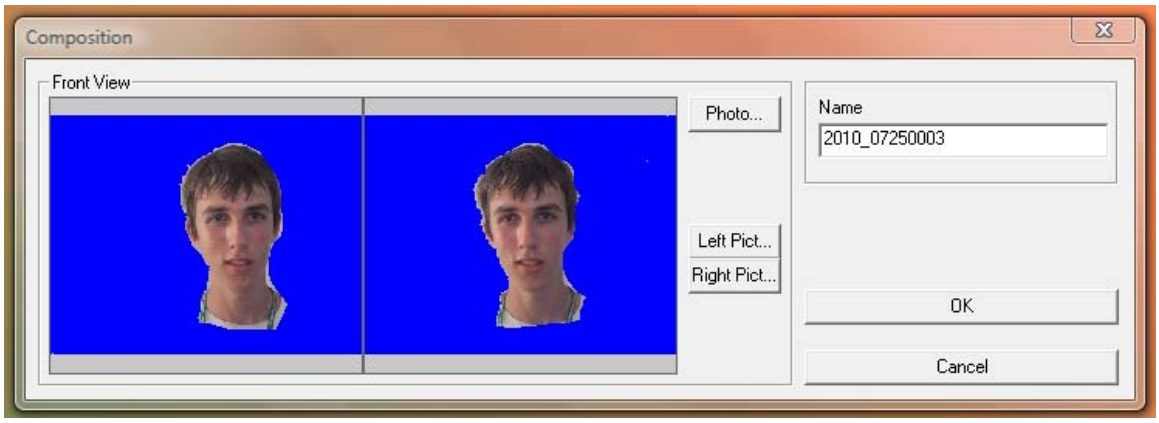
Observe the missing background

The resulting 3D image is very bad:

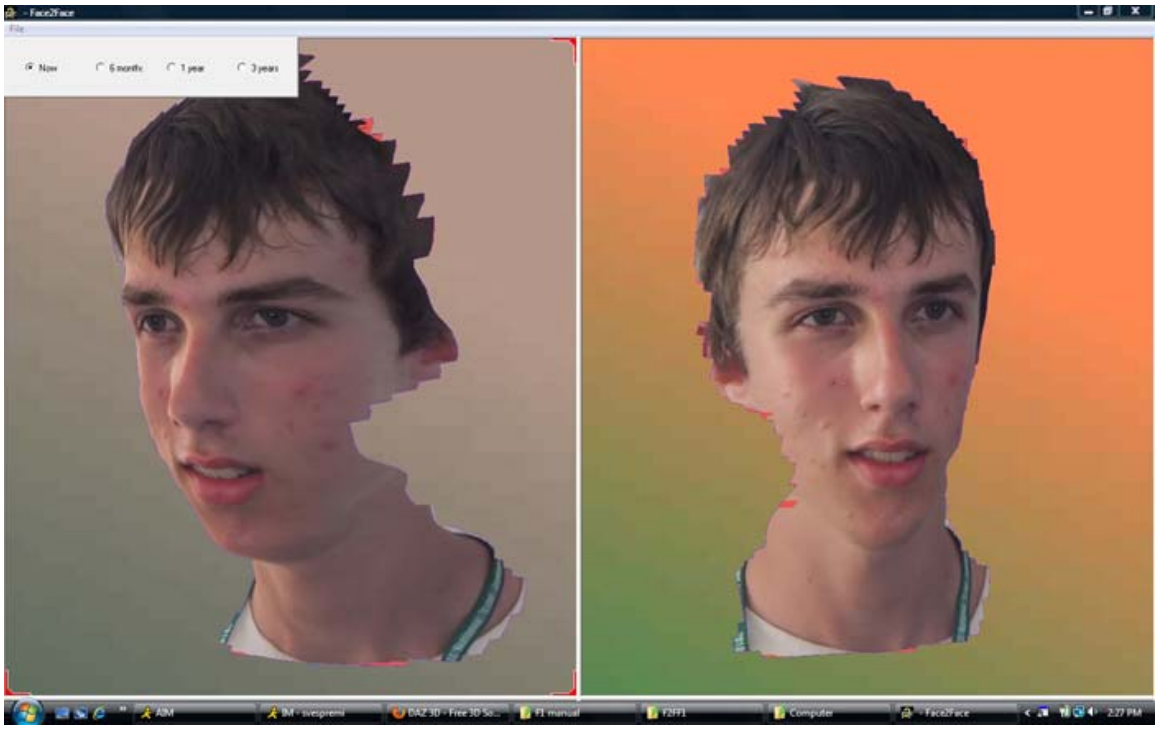


How to avoid?

1. Change the lighting
2. 2. If this is not possible, simply go to “Manual Background” by unchecking auto background (see more in the next chapter).



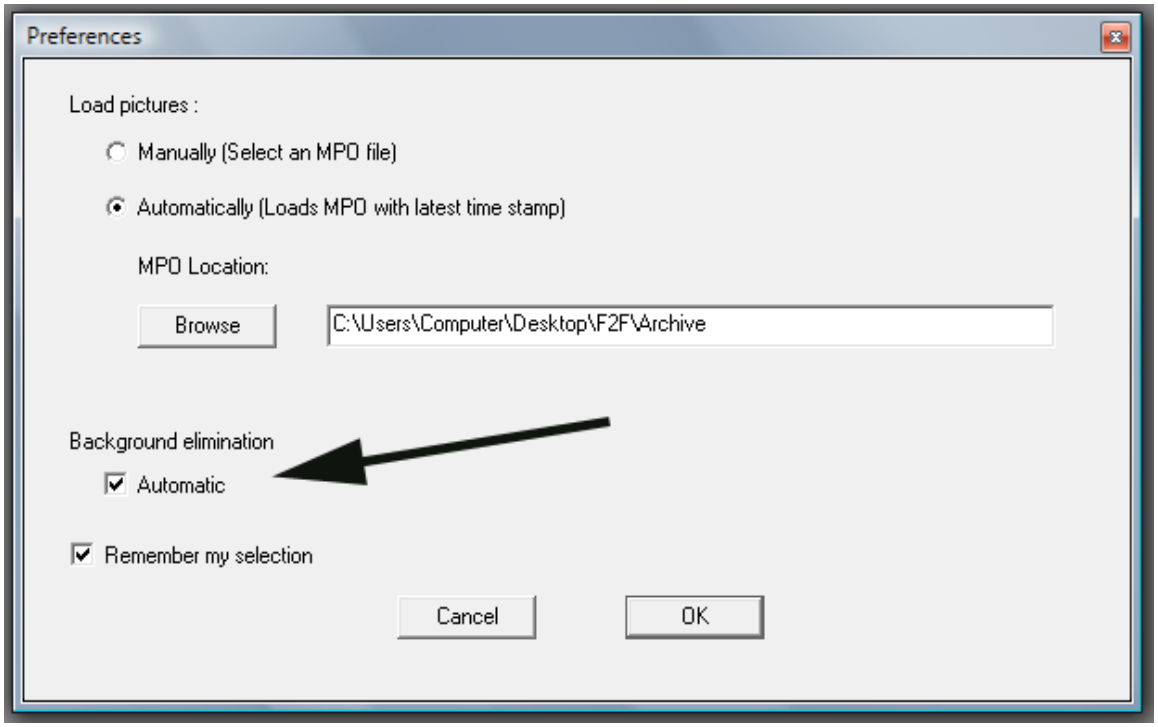
Same file after manual background painting



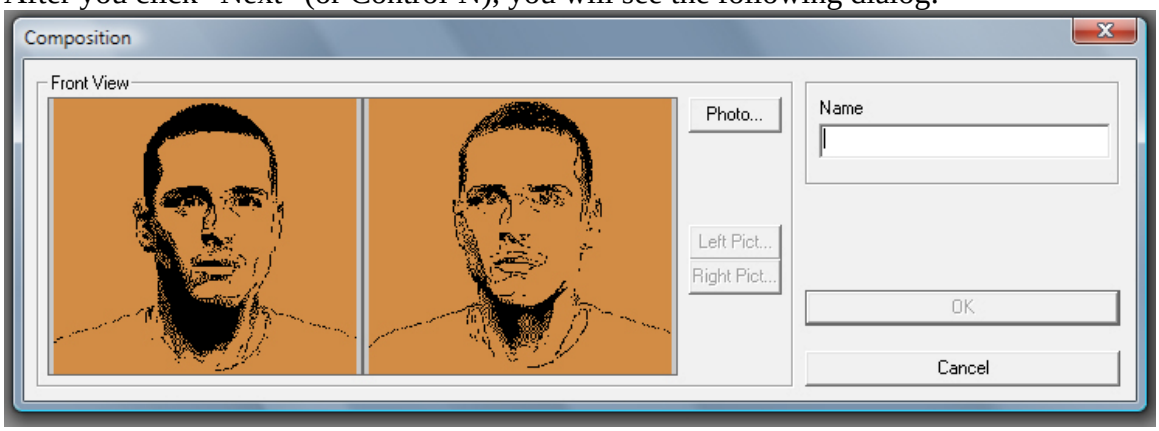
..and the resulting 3D mesh, now OK.

Manual masking.

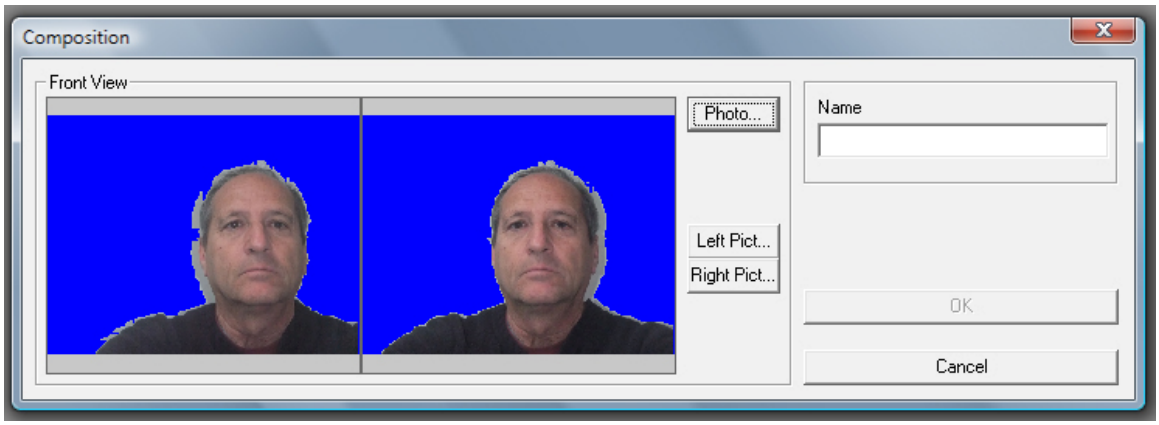
Normally not recommended, however, if you turn off the Automatic under “Background elimination”, you will have an opportunity to manually eliminate the background that may cause problems.



After you click “Next” (or Control-N), you will see the following dialog:



Click on the Photo button and the software starts processing. After about 10-20 seconds you will see the following dialog:



Click first on the “Left Picture” button. The following palette will apperar:

Use the “Blue Pen” tool to paint over pixels you want to eliminate (like shoulders and shadow around the head).
If you make a mistake, use the “Eraser” that does the opposite and uncovers pixels.
You can set the diameter of both tools from Small to Big.

Repeat this with the “Right Picture”. Click OK.
Now, as you eliminated the extraneous items, the head should progress faster and probably better..